

NOTES FROM 08.31.05 PROTON DRIVER MEETING - CIVIL

Attendees: Bill Foster, Giorgio Apollinari, Rich Stanek, Dixon Bogert, Bob Webber, Jerry Leibfritz, Kamran Vaziri, Mike Andrews, Lee Hammond, Gary VanZandbergen, Chuck Federowicz, John Santic, Paul Lahn, Elaine McCluskey

ITEMS DISCUSSED:

1. **Typical RF station layout:**
 - a. Showed typical vertical station.
 - b. Penetrations:
 - i. Waveguides: showed precast concrete section vertically, accessible from surface. Revisited question of straight versus angled penetration for radiation shielding. Kamran will run MARS analysis to look at this. Agreed that smaller the duct, the better. Decided probably won't have to access this penetration in the future. Will likely need to be cooled, though this is not finalized yet. SNS does cool their waveguide penetrations. Bob Webber to look into this.
 - ii. Cables: 2 sets per 60 ft module, each 6" PVC.
2. **Horizontal versus vertical klystrons:**
 - a. From Snowmass, DESY will be developing horizontal klystrons in next few months. WE SHOULD CONTINUE WITH BOTH HORZ & VERT FOR THE TIME BEING.
 - b. Will plan to layout typical RF station for both horizontal and vertical klystrons.
3. **540 Building areas:**
 - a. Gary showed programmed space, not actual space layout
 - b. 4 locations along length of gallery, each about 80' x 60'
 - c. 2 mechanical rooms, 1 pump room, work area, tech space, stair, electrical, toilet, janitorial, loading area
 - d. Road side (front face) of these areas to be "clean" without doors, etc. Substation area in front of this. (Architectural decision)
 - e. Exit stairs (required by code) go from these areas over gallery and berm to stair tower that descends to tunnel level on other side of machine. Question of whether stair under tunnel is more cost effective. Will do cost trade-off study. Does this stair address ODH venting issues – no. This would be handled by separate vent to surface. Will need to work through interlock door issues related to this stair.
 - f. Showed photo of possible massing, which generated much comment.
4. **Environmental activities:**
 - a. US Fish & Wildlife Service has issued a letter to DOE saying there are no endangered species in center of MR and MI area
 - b. Two current issues:
 - i. Wetlands: Rod met with Deputy Commander of ACOE Chicago. Requested to work with him on "creative solutions" to wetland mitigation required for this project. Asked to have jurisdictional determination issued promptly. We are getting cost proposal from Patrick Engineering to do the wetland delineation in spring. Expect to burn south half of inside MR in early November, if weather permits.
 - ii. Water level management inside MR. Trying to understand with AD and FESS what is optimum level of water inside, for planning purposes for PD.
 - iii. Meeting with DOE for NEPA scoping is planned for Sept 7. Writers of EA will be Rod, Chuck, Kamran, Dixon, Paul Kesich, Eric Mieland, Mike Andrews
5. **Path of Proton Driver has been mowed and is accessible by Jeep – Dixon giving tours.**
6. **Req for Hydrogeologic borings is just waiting for task code. Elaine will give to Bill to see if end of year money is available for this. Timing would be right now to perform these.**

Actions:

- Kamran to look at penetrations for shielding issues related to straight versus angled penetrations.
- Bob Webber to look into cooling of waveguide penetrations
- Elaine to get hydrogeologic boring req to Bill

Next meeting scheduled for 9/14/05 at 9:30 in WH5NE